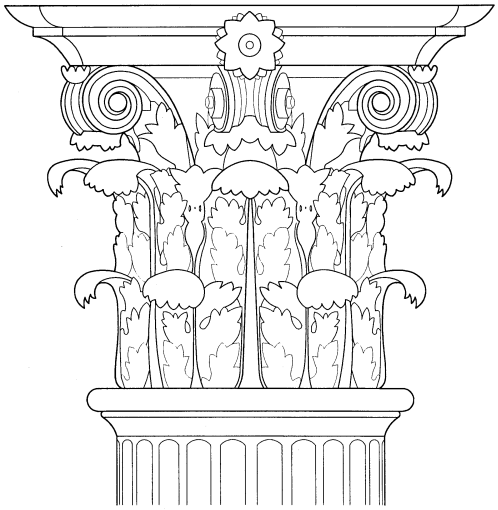
HABS GUIDELINE

RECORDING STRUCTURES AND SITES

with

HABS MEASURED DRAWINGS



SECTION 1.0
PROJECT PREPARATION

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1.0.0 PROJECT PREPARATION

1.1.0 PROJECT PLANNING

1.1.1 The primary objective of project planning is to determine the scope of work, and the number of personnel, kinds of equipment, and financial resources required to complete the job. First, buildings and sites must be evaluated in terms of size and complexity.

1) From written or graphic documents, or by pacing off or measuring, determine the overall dimensions of the structure;

2) Determine sheet sizes. For drawings at 1/4" scale, multiply the dimension in feet by 0.25 to determine the drawing size in inches, for example, a building 50' in length will be drawn 12-1/2" long (50 x 0.25 = 12.5). To draw at 1/8" scale, multiply by 0.125, (50 x .125 = 6-1/4"); to draw at 1/16" scale, multiply by 0.0625 (50 x 0.0625 = 3-1/8").

3) For sites to be drawn at engineering scales, information should be gathered from previous surveys and descriptions, as well as paced off or measured in a preliminary fashion.

1.1.2 The number, size and complexity of the anticipated images will determine the number of architects required. HABS estimates that one architect should be able to completely ink three relatively complex to five relatively simple 24" x 36" sheets, working 40 hours per week, in twelve weeks. This estimate includes time spent working with teammates obtaining measurements for the entire set of drawings.

1.1.3 An early concern of project planners is the need for special equipment such as electronic surveying devices, cherry pickers and scaffolding which are expensive and must be arranged for far in advance of the project. Other expenses will include measuring and drafting supplies, as well as film and reproduction costs for drawings, photography and written reports.
For projects undertaken by HABS, the entire scope of work, including selection of images and personnel, and the budget, is determined in the Washington office and defined in a Memorandum of Agreement with the project sponsor.

1.2.0 BUDGETING TIME

1.2.1 Recording time is divided into three phases: measuring, drawing in pencil, and inking. Project supervisors should monitor the progress of their teams, and be especially mindful that

accurate measuring and the frequent checking of pencil drawings will ensure that the ink drawings require minimal changes.

1.3.0 PROJECT SAFETY

1.3.1 Old structures can present a number of safety hazards which must be identified and assessed before measuring begins. At national parks, as well as other public and commercial sites, a safety officer should be consulted for information on potential hazards. Hazardous conditions can be broadly categorized as those due to:

1) Design, construction or site characteristics: steep and slippery roofs; steeples, towers and similar structures with limited or absent built-in access; ceiling areas in churches, barns, auditoriums, etc.; attics, basements and crawl spaces with protruding nails, live pipes and wires, and mechanical equipment; old wells, cisterns, tunnels and excavations; electrified fences; the presence of unpredictable animals such as livestock and guard dogs; climatic conditions such as extreme heat, humidity, cold, wind, rough seas; the presence of poisonous and thorny vegetation;

2) damage resulting from abandonment, neglect, accidents, vandalism and aging: rotted floors and ceilings; unstable walls; glass and metal shards; toxic materials; animal droppings; infestation by bats, poisonous insects, spiders, scorpions or reptiles;

3) social, communication problems: high-crime areas, both urban and rural, potential presence of individuals known to be hostile to the Federal Government.

1.3.2 Safety precautions

1) Always apprize owners/managers of your intentions, schedule site visits and full team walk-throughs well in advance of the commencement of the project; obtain written permission for legal and insurance purposes;

2) always wear clothing appropriate to the site and environmental conditions; sturdy boots and jeans are always highly recommended;

3) do not rely on team-mates' physical strength for support or attachment, but use ropes and harnesses;

4) use flashlights, hard hats, face masks, goggles, ear protection, and any other devices deemed necessary;

5) whenever possible, use ladders, scaffolding and cherry pickers;

6) avoid highly unstable building elements;

7) avoid areas where the risk of harassment or assault is high;

8) always schedule site visits with another team member; if this is not possible, be certain that your team mates know of your whereabouts.

1.4.0 MEASURING, SURVEYING AND DRAFTING EQUIPMENT

1.4.1 The following materials and equipment are commonly used at HABS documentation projects:

- transit and/or Electronic Distance Measuring Device (EDM) for site survey and horizontal datum lines

- chalk line (blue powder only!), string level for marking horizontal datum lines

- drafting tape on which to mark datum points on structures and objects where use of a chalk line is prohibited

- tape measures from 6 to 300 feet (preferably metal)

- carpenter's square

- carpenter's level

- extendable measuring pole

- plumb bob to check columns and walls

- profile comb to describe full-size profiles of moldings and other difficult to measure ornamentation

- calipers for measuring diameters of objects circular in plan/section, such as balusters

- string

- stakes, nails, hammer

- flashlight

- rods marked at 12" intervals for use in supplemental photography

- wall calipers to measure wall thicknesses

To ensure accuracy and consistency throughout the measuring process, steel rather than cloth tape measures should be used--preferably of the same brand.

1.4.2 Equipment and materials for field notes and preliminary drawings

- graph paper for field notes

- clip boards or other convenient boards for sketching in the field

- vellum or drafting film for preliminary drawings; trace is not acceptable

- parallel rule, with brake if possible

- triangles, French curves, templates

- 2H or harder leads, lead pointer, colored pens

- vinyl eraser ("white soap eraser"), brush

- architect and engineer scales, preferably of one brand, otherwise check for consistency

- flexible curve or ship's curve

- plastic lead is not recommended. Frequent pointing of leads while drawing enhances accuracy.

1.4.3 Equipment for ink drawings

- HABS drafting film

    34" x 44" / Arch E (drawing surface = 31 - 5/8" x 39 - 7/8")
    24" x 36" / Arch D (drawing surface = 21 - 3/4" x 31 - 3/4")
    19" x 24" (drawing surface = 15 - 3/4" x 20")

- technical inking pens

    .13 mm - .8 mm (6 x 0 - 3)

- black ink for matt drafting film, non-etching, reproducible (Diazo), "Pelikan FT" or similar

- mechanical lettering set with 240, 200, 175, 140, 120, 80 template sizes

- triangles and templates with inking edges or raising bumps

- chamois or tissue

- trace for masking completed areas

- vinyl eraser (use electric erasers with great care!)

- erasing shield

- cleaning fluids or alcohol for technical pens and drafting film.